

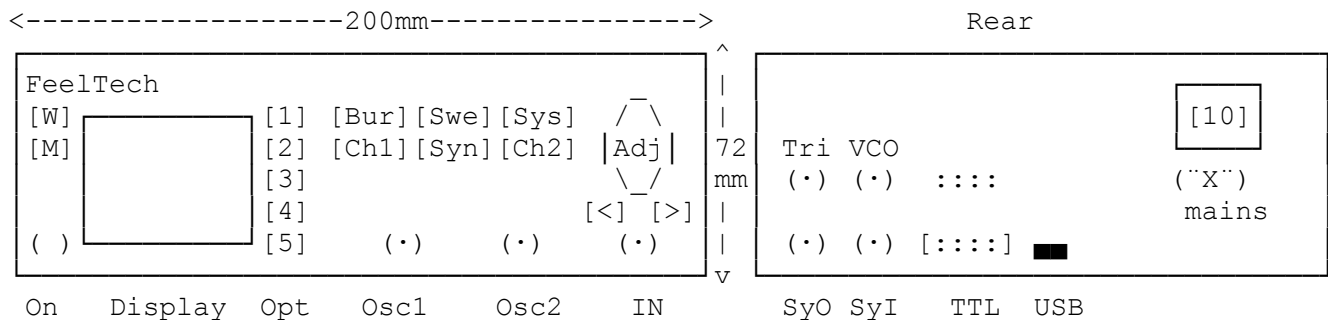
FeelTeck Dual DDS Osc FY6600-60M

By G8MNY

(Update Jun 22)

(8 Bit ASCII graphics use code page 437 or 850, Terminal Font)

I used one of these new osc for a ham Training course. It did loads of useful demos except it could not do "a distorted AM signal", so I could not easily show over modulation. (swapping the sine modulation for a trapezium waveform will work)



SPEC

Mains 2 pole figure 2, 100-260V 10W SMPSU gives +5 & +/-12V
 Both osc DC-60MHz in mHz steps! 1uV-20Vp-p unloaded, 50Ω BNC
 32 wave shapes are pre programmed, & 32 more Arbitrary possible
 DC offsets 1mV-10V on some freq ranges
 Phases can be set to 0.1 deg accuracy between osc/sync O/P
 Modulation Osc2 modulates Osc1, in AM, FM, PM, ASK, FSK, PSK, Pulse, Burst
 Frequency sweeps of Osc1 possible in linear & log etc.
 Counter mode needs 1.5-5V input reads up to 100MHz. +/- 20ppm
 Colour Display show selected menu [1-5] params & an O/P mode graphic

CALIBRATION

Frequency accuracy is poor both as a signal gen & counter, but modulation accuracy all spot on by DDS design.

Modulations are in peak-peak value, so some maths needed for the real value.
 For FM Dev enter 2x for P-P Value. For PM use Rad x2 x57° for P-P deg to 360.
 For AM modulation has been wrongly referenced from the peak value not the mean, so 66% is actually 50% AM depth, 0 & 100% are OK, & 200% gives double side band no carrier! A useful 2 tone test signal!

IN USE

Not so easy to set up, as 8 digit used for most params. Pressing Adj knob in give range scale change (Hz kHz MHz etc). Changing the frequency manually gives noisy results as the CPU commands to the DDS upset the output. And like all computer controlled signal sources there is some low level VHF RFI from the CPU visible on a good spectrum analyser, and you can see the various DDS system mirror images as you change RF freq etc.
 The 2 locked phase & level adjustable sources are a good way of testing noise# null steerer canceller units.

RFI

Inside there is a tiny SMPSU with just fuse & small a balanced choke before the bridge rectifier & 10uF 350V of DC smoothing. I put in another balanced choke & a ul (from a scrap SMPSU) soldered to the mains socket to give better than 20dB further QRM supression.

See my tech Buls on "Syston Donner 115 Pulse Gen", "198kHz Off Air Standard", "Comparing Off Air Freq Standards", "Off Air Lock for Ref Osc". "Scope RF Trick" & "Marconi 2019A Sig Gen".

Why don't U send an interesting bul?

73 de John, G8MNY @ GB7CIP